AMENDMENT TO THE CLAIMS

1.   (Currently amended) A Viterbi decoder for decoding a trellis-coded modulated signal, comprising:

a subset selector section for receiving a reception signal, selecting a transmission symbol having [[the]] a highest likelihood with respect to a reception symbol point for each subset, and outputting [[a]] branch [[metric]] metrics corresponding to the selected transmission symbol and [[a]] subset select signal signals for specifying the selected transmission symbol;

delays for delaying the subset select signals for a predetermined time;

an add-compare-select (ACS) section for receiving the branch metrics, performing arithmetic operation to obtain path metrics in accordance with a trellis diagram, and outputting path select signals for selecting paths having high likelihood;

a trace-back memory for storing the path select signals;

a trace-back section for tracing back the path select signals stored in the trace-back memory by a predetermined trace-back length from a start node number as a start point;

a subset number generator section for outputting, using [[the]] a number of a first node through which a most likely path passes obtained by the trace-back section and in accordance with a trellis diagram, coding bits relating to transition to the first node and a subset number;

a selector section for receiving the subset number and the subset select signals output from the delays and outputting a noncoding bit relating to the transition to the first node; and

a LIFO memory for storing the coding bits output from the subset number generator section and the noncoding bit output from the selector section in combination and outputting the stored bits as a decoded signal.

2.   (Original) The Viterbi decoder of Claim 1, further comprising a most likely path

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decision section for receiving the path metrics from the ACS section, detecting a most likely path among the received path metrics, and outputting a node number through which the detected path passes,

wherein the trace-back section determines the start node number based on the node number output from the most likely path decision section.

3.   (Original) The Viterbi decoder of Claim 1, wherein the subset number generator section generates the coding bits and the subset number using the first node number and a second node number through which the most likely path has passed one time point before the first node.

4.   (Original) The Viterbi decoder of Claim 3, wherein the subset number generator section has table data representing the relationship between a combination of the first and second node numbers and a combination of the coding bits and the subset number.

5.   (Original) The Viterbi decoder of Claim 1, wherein the subset number generator section generates the coding bits and the subset number using the first node number and a path select signal corresponding to the first node.

6.   (Original) The Viterbi decoder of Claim 5, wherein the subset number generator section has table data representing the relationship between a combination of the first node number and the path select signal and a combination of the coding bits and the subset number.

7.   (Original) The Viterbi decoder of Claim 3 or 5, wherein the subset number

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generator section includes an operator for performing arithmetic operation based on an generator polynomial of an encoder.

8.   (Original) The Viterbi decoder of Claim 1, wherein the subset selector section generates the subset select signal so that the subset select signal matches the noncoding bit corresponding to the selected transmission symbol.

9.   (Original) The Viterbi decoder of Claim 1, wherein the trace-back memory includes a RAM storing the subset select signals and the path select signals at the same addresses.

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